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The Stellwagen Bank National Marine Sanctuary
Compatibility Determination
Working Group Membership Table

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Helen Scalliet	Technical Advisor	Office of National Marine Sanctuaries

The Stellwagen Bank National Marine Sanctuary
Compatibility Determination
Executive Summary Table

Strategy	Activity	Action	Page #	Status	Consensus / ***Non-Consensus Options***
The Sanctuary Should Develop a Framework for a Sanctuary Compatibility Analysis Process	(1.1) Develop a sanctuary vision.	1.1.1	CD-6	Consensus	
		1.1.2	CD-6	Consensus	
	(1.2) Review and refine mission, goals and objectives of management actions necessary to advance vision.	1.2.1	CD-6	Consensus	
	(1.3) Develop and begin to apply S-CAP.	1.3.1	CD-7	Consensus	
	(1.4) Continue to refine S-CAP by incorporating results of ongoing sanctuary monitoring.		CD-7	Consensus	

Gerry E. Studds Stellwagen Bank National Marine Sanctuary
Compatibility Determination Action Plan

Overview

Congress designated the Stellwagen Bank National Marine Sanctuary (SBNMS) on November 4, 1992 as part of the amendments to the National Marine Sanctuaries Act (amended by the Oceans Act of 1992). It is one of 13 sanctuaries around the Nation designed to protect nationally significant natural and cultural resources. The SBNMS stretches between Cape Ann and Cape Cod at the mouth of Massachusetts Bay and is about the size of the State of Rhode Island. It is entirely within federal waters, and its boundaries include the submerged lands of Stellwagen Bank, all of Tillies Bank and Basin, and the southern portions of Jeffrey's Ledge. The area's rich ecological resources have historically supported and continue to support a wide variety of human uses including fishing, recreational boating, research, shipping, and whale watching. The sanctuary protects 842-square miles in a topographically diverse area geologists calculate was created some 14,000 years ago during retreat of the last Great Ice Age glaciers.

This action plan is in response to public comment received regarding the application of one of the nine purposes of the National Marine Sanctuaries Act to the SBNMS, which is:

> "… to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities." (sec. 301(b)(6)

This action plan addresses this topic by: (1) discussing the issues raised by the public about determining compatible uses; (2) describing how the program currently treats compatibility and what the relevant information sources are on this topic, and (3) presenting a strategy that lays out a framework for how to develop a compatibility analysis.

The purpose of this action plan is to propose a framework that can be used to help evaluate compatible uses in the SBNMS.

Description of the Issues

The public comment scoping process conducted by the SBNMS as part of its Management Plan Review process in 1998, and again in 2002, identified several concerns regarding "compatibility." In summary, these comments arose from how the compatibility language in the NMSA applies to management of SBNMS. Many comments revolved around the fact that the sanctuary's primary objective is resource protection and that human uses must be conducted within the context of that objective. Commenters raised issues regarding the impacts of human uses on sanctuary resources, and that the sanctuary needed to have a clear vision and mission in order to appropriately manage human uses, suggesting that a method was needed for assessing the risks of human uses and their cumulative impacts on sanctuary resources. In other words, SBNMS needs a way to determine compatible uses of sanctuary resources that is consistent with the sanctuary's vision and purpose.

The SBNMS Sanctuary Advisory Council created a stakeholder Compatibility Determination Working Group at its December 2003 meeting to respond to the public scoping comments received on these issues. This Working Group (WG), chaired by a member of the Advisory Council, was comprised of representatives from shipping, fishing, whale watching, and conservation organizations, as well as academic experts on marine policy, law and economics and federal government representatives (see member list attached at Appendix VI). The WG met five times between February-May 2005 to develop this action plan. At the first meeting the WG developed the following goal statement to guide its work:

> ***Compatibility Determination Working Group Goal Statement***
> *To develop a framework to assess and evaluate whether existing or proposed human uses are compatible with the sanctuary's primary objective of resource protection*

The WG's final action plan addresses the issues raised by the public in scoping by justifying and recommending an approach the sanctuary should take in performing compatibility analyses. The action plan does not make any determination regarding the appropriateness of any specific sanctuary use, current or potential, nor does it recommend any actions that affect the outcome of other action plans recommended by other working groups.

Addressing the Issues

There is no established guidance on compatible use from the national program, and SBNMS is the first sanctuary to directly address how to determine compatible uses. The WG started by defining its goal and reviewing a background paper on compatibility developed by National Sanctuary Program staff. The background paper and an accompanying matrix are included as appendix I and II and excerpted below. The WG then heard presentations from experts on approaches to compatibility such as "Limits to Acceptable Change" (LAC) and the National Wildlife Refuge approach, formed a subgroup to draft an application of the LAC process to SBNMS, and reviewed relevant legal Sanctuary authority. Finally, the WG came to several overarching conclusions about compatibility determination in SBNMS and developed an approach for formulating a SBNMS compatibility analysis.

Background paper

The background paper was divided into two parts. The first part explains how the sanctuary program currently determines compatible uses and the second part discusses how compatibility is treated by other government entities.

In summary, in National Marine Sanctuaries, there is no program-wide methodology for determining compatible uses. As a result, compatibility determinations in individual sanctuaries are currently made by implementing various mechanisms on a case-by-case basis. Current mechanisms used to assess the compatibility of activities within sanctuaries include:

- Congressional prohibition of certain activities. For example, when designating SBNMS Congress prohibited the mining of sand and gravel and the exploration for and extraction of hydrocarbons.

- Site-specific regulations. For example, the disturbance or removal of historic resources is prohibited in the SBNMS with exceptions.
- Listing of activities subject to regulation in the designation document. For example, the operation of vessels is an activity subject to regulation but is not currently regulated.
- Permitting certain activities. For example, a fiber optic cable was permitted to be placed in the SBNMS in 2000.
- Zoning. For example, the Monterey Bay National Marine Sanctuary uses zoning to confine the use of jetskis to certain areas.

The authorities for these mechanisms are discussed. Appendix III lays out the authorities that are pertinent to determining compatibility in the SBNMS.

The second part of the paper describes how other management regimes have determined or attempted to determine compatibility. For example, the National Wildlife Refuge System (NWRS) has a well-defined compatibility determination process including a legal definition of compatible use that evolved over the past 60 years. Once a use is proposed to a refuge, the refuge manager uses a screening tool made up of a series of dichotomous steps to determine the compatibility of that use; the refuge manager retains discretion whether or not to allow the use, even if it is determined to be compatible.

As another example of how to determine compatibility, the National Park Service, U.S. Forest Service, and the Saba Marine Park in the Netherland Antilles all have adapted an approach called "Limits of Acceptable Change" (LAC) process for compatibility determinations in their sites. It provides a process for deciding what resource conditions are acceptable, and then prescribing management actions designed to protect or achieve those conditions. The LAC concept is based on compromising uses that result from two conflicting goals of management, for example conservation and access to recreation. In multiple-use areas, the concept could be applied if one of the goals takes precedence over others, as indicated in a mandate or administrative history for example. In order to apply LAC, a site or program must have clearly specified goals, active stakeholder participation, and application of indicators and standards to define and evaluate management actions.

Review of Other Approaches to Compatibility

After reviewing the background paper, the group heard presentations from a leading academic expert on LAC and a representative from the US Fish and Wildlife Service to learn more about these approaches and how each might apply to SBNMS. The group identified aspects from each approach that could be useful for SBNMS. For instance, LAC provides a broad theoretical approach, and a way to develop a clear, justifiable process that can be used to guide a site's decisions which can be helpful for SBNMS, but some of the assumptions regarding inevitable impacts on resources in LAC do not necessarily apply to SBNMS. The USFWS process is a narrower, more defined approach; the question and answer screening tool used by USFWS is something that SBNMS may want to consider using (see Appendix IV) , but there are some significant differences between Refuge sites and SBNMS. For instance, the Refuge system has a well-established compatibility determination process resulting from decades of various guidance papers, court decisions and definitions, and the Sanctuary Program does not have this foundation. Additionally, Refuges are generally considered closed to uses, unless specifically opened,

whereas Sanctuaries are, under the program regulations (15 CFR 922), generally considered open to uses unless they are specifically closed. Refuges are also terrestrial sites owned in fee simple by the government, whereas SBNMS is comprised of submerged public lands and the water column above.

Relevant Legal Authority

The group then reviewed relevant legal authority related to developing a compatibility determination framework for SBNMS. Information contained in the law, regulations, designation document and management plan provided the group with important insight into what the law contemplates for SBNMS' purpose and how human uses of sanctuary resources should be addressed. It was important for the group to understand what current relevant authority says regarding SBNMS' purpose and extent of human uses contemplated because it became apparent after examining both the LAC and USFWS approaches to compatibility that such information is a necessary component of any approach to compatibility. The group noted that compatibility approaches tend to work in a 'top down' hierarchical format, starting with the broadest areas of a site's 'vision' or 'mission' and working down through how management objectives implement that vision, thereby laying the foundation for being able to ask specific questions about whether any particular use is compatible with that site's purpose. SBNMS current relevant legal authority can provide input into those different levels of a compatibility analysis hierarchy.

The group reviewed relevant portions of current legal authority, specifically the NMSA, implementing regulations applicable to all sanctuaries as well as those specific to SBNMS, the SBNMS designation document, and the current 1993 Management Plan (see Appendix III). The group's review of this information was not intended to be a comprehensive view of all authority related to SBNMS, nor to resolve differences of opinion regarding how to interpret authority; the purpose was to identify what guidance currently exists in law and management that could assist in understanding how to develop a compatibility framework for SBNMS.

The group found that current authority contains references to resource protection as well as human use, and noted some strong statements and contradictions throughout. Implementing regulations indicate that all sanctuaries are generally presumed open to uses unless specifically closed (in contrast to National Wildlife Refuges), and that certain uses have been specifically considered per se 'incompatible' in regulations and the designation document for SBNMS, while the SBNMS 1993 Management Plan states that resource protection is 'the highest priority management goal' for the site.

Conclusions

Some general conclusions that the group reached should be highlighted:

1. SBNMS should utilize a hierarchical approach to develop a Sanctuary Compatibility Analysis Process (S-CAP) for application to compatibility issues. A hierarchical approach flows from broad statements of site 'vision' and 'mission' down to more specific management goals and objectives, then provides a means by which to screen

whether a use is compatible, or how it could be made compatible, with the site's vision, mission, goals and objectives.

2. In developing an approach to compatibility, it is critical that SBNMS' overarching vision be clearly defined as soon as possible, as this is an essential part of developing and applying any compatibility process. The process to define that vision should happen in time for the vision to be included in the current draft management plan (anticipated to be released for public comment in fall 2005). A SBNMS vision should be developed by both sanctuary managers and stakeholders, as having a common understanding of the site's vision is important to stakeholder acceptance of and management success in implementing a compatibility process.
3. It is important to use existing authority as existing guidance regarding SBNMS' purpose and what has been contemplated regarding types of uses within SBNMS so that information can be included in a compatibility analysis.
4. It is important to clearly identify the roles and responsibilities of managers and opportunities for public participation throughout the development and application of a compatibility determination process. Both stakeholders and managers need to understand who is making decisions about compatibility and how the public can participate in these decisions.

Addressing the Issues – Strategies for this Action Plan

The CDWG recommends by consensus that SBNMS implement the following Strategy to address the issues regarding compatible uses raised by the public.

- Strategy CD. 1 – Develop a framework for a Sanctuary Compatibility Analysis Process.

STRATEGY CD.1 – DEVELOP A FRAMEWORK FOR A SANCTUARY COMPATIBILITY ANALYSIS PROCESS.

The working group recommends that a hierarchal approach should be used to develop a Sanctuary Compatibility Analysis Process (S-CAP) that SBNMS can apply to issues regarding compatibility. Such an approach starts with broad statements of what SBNMS' vision and mission are, and works down to how management goals and objectives implement that vision and mission. At that point, specific screening tools (such as the flowchart used by USFWS, see Appendix IV) can be applied to address specific questions regarding compatibility of uses in SBNMS. See Appendix VI for an example of a hierarchical approach applying LAC to Saba Island Marine Park, and Figure 1 for a hypothetical example applying a hierarchical approach to jetski use in SBNMS.

Once it is developed, S-CAP should be used as a decision-making tool explicitly linked to sanctuary management. S-CAP should be used by the sanctuary to perform comprehensive planning (such as management plan reviews) as well as to address situations regarding specific uses. Full development of S-CAP should commence soon after the final management plan comes out, but developing the 'vision' component of S-CAP should take place as soon as possible to

take advantage of the current MPR process and the opportunities provided for public and SAC input. The S-CAP should achieve the following objectives:

- Clearly define the role of stakeholders and managers
- Clearly define the decision-making process such that decisions are rational and transparent
- Address current uses, new uses, the scale of use, and cumulative impacts (note: issues regarding conflicting uses that have no impact or risk of impact to sanctuary resources are not intended to be resolved by S-CAP or any other compatibility approach, as such issues present conflicts between uses, not between a use and resource protection) .

Activities (4)

1.1. ***Develop a sanctuary vision.***

In order to utilize a hierarchal approach that can be applied to questions of appropriate use of SBNMS resources, the top order of the site's 'vision' must be established first. It is important that such a vision be a succinct, positive statement, emphasizing a broad common denominator that managers and stakeholders can agree upon for SBNMS. This vision should be developed by SBNMS management with stakeholder involvement through the SAC, and should be included in the current draft management plan as an appropriate part of that comprehensive planning process and to take advantage of public comment opportunities.

1.1.1. Definition of vision: A vision for the sanctuary is a description of desired sanctuary conditions, such as ecological and population characteristics, cultural/historical resource qualities, and human use or activity patterns. The vision should reflect and embody the sanctuary's unique characteristics and ensure and promote the sanctuary's purposes.

1.1.2. The superintendent, with strong consideration for the SAC's recommendation, develops a vision for the sanctuary to include in the current draft management plan using available information such as existing authorities, public input provided during 1998 and 2002 scoping, etc.

Status: Completed by fall, 2005.

Potential Partners: Sanctuary Advisory Council, other stakeholder groups

1.2. ***Review and refine mission, goals and objectives of management actions necessary to advance vision.***

Once a sanctuary vision has been defined, the supporting mission, management goals and management objectives that implement that vision need to be developed/ articulated. The mission, goals and objectives are the next steps in developing and implementing a hierarchal approach that can be applied to compatible use questions in SBNMS. These steps should flow from and support the sanctuary vision. It is anticipated that the broader overarching components of S-CAP, such as the vision and mission, once established, will not need to be reviewed or changed every time S-CAP is applied, whereas the more narrow, focused aspects, such as management objectives and goals, may vary different depending on the specific use question posed, and on evolving management practices.

1.2.1. Incorporate SBNMS mission, goals and management objectives into S-CAP.

Status: Completed by year 1.

Potential Partners: Sanctuary Advisory Council with stakeholder input.

1.3. *Develop and begin to apply S-CAP.*

Once SBNMS vision, mission, goals and management objectives are determined, the final step in developing S-CAP is to produce a 'screening tool' incorporating measurable indicators and standards that can be used to answer specific questions regarding whether a use (or uses) is compatible with the sanctuary's primary purpose of resource protection as stated in the NMSA. The development of this tool is important to successful implementation of S-CAP, and is complex, thus it may require a process such as a new Working Group to assist. An example of such a tool is the question and answer flowchart USFWS uses in their compatibility determination (see Appendix IV).

In developing an appropriate S-CAP screening tool for SBNMS, existing research on risk assessment, cumulative impact assessment, and participatory decision-making should be considered. The screening tool should use an objective approach and incorporate best available scientific information, and be easy to understand and apply. The screening tool should first consider whether a use is already prohibited or subject to regulation; then it should clearly guide decisions on other uses. It is important at this point that the screening tool clearly guide how to decide if and how a use can be made compatible by imposing stipulations, since this is the most challenging aspect of compatible use determinations, and may be the most common situation once prohibited or regulated uses are screened out.

1.3.1. *Develop an appropriate screening tool for incorporation into S-CAP to guide specific decisions regarding compatible uses, using existing information on such tools and appropriate means for stakeholder involvement.*

1.3.1.1. *Incorporate measurable standards and indicators into the screening tool.*

1.3.1.1.1. Identify measurable indicators designed to detect effects of compatible uses. This requires monitoring of sanctuary conditions utilizing, where appropriate, collaborative research programs.

1.3.1.1.2. Identify measurable standards in a monitoring program to ensure that compatible use remains compatible (takes into account cumulative impacts, etc.)

1.3.1.1.3. Apply S-CAP in a pilot study to evaluate and refine its effectiveness.

Status: Completed by year 2.

Potential Partners: Sanctuary Advisory Council with stakeholder input.

1.4. Continue to refine S-CAP by incorporating results of ongoing sanctuary monitoring

It is important to ensure that S-CAP continues to be applicable to changing conditions and evolving uses of Sanctuary resources. Application of monitoring information back into S-CAP will further refine the process so it continues to be a viable management tool to guide decisions on compatible use and contribute to Sanctuary management.

Status: Implemented by the next final management plan (approximately 2011).

Potential Partners: Sanctuary Advisory Council with stakeholder input.

Figure 1. Hypothetical Application of S-CAP Process

Issue: Do jet skis in the sanctuary harm whales? Is it a use compatible with site's purpose?

Vision: Healthy animal populations

Mission: Resource protection

Goal: Protect assemblages of marine mammals

Objective: To strengthen the protection of marine mammals by assessing and minimizing behavioral disturbance including vessel strikes to marine mammals, and by fostering cooperation with cross-jurisdictional partners that affects marine mammals.

Standard: Marine mammal behavior is not altered nor are they struck by vessels

Indicators that standard is being achieved:

- No marine mammals are struck by jetskis
- No change in marine mammal distribution due to jetskis
- Surface-to-dive time ratio for marine mammals is within normal range and unaffected by jetskis
- Marine mammal communication is unimpeded by jetski noise.

Appendix I. Background Information on Compatible Use Determination Within The National Marine Sanctuary Program And Other Natural Resource Management Agencies

Prepared by the National Marine Sanctuary Program on Jan. 21, 2005 for use by the Stellwagen Bank National Marine Sanctuary Working Group on Compatibility Determination

SUMMARY

The purpose of this paper is to provide the Compatibility Determination Working Group (CDWG) for the Stellwagen Bank National Marine Sanctuary (SBNMS) with background information relevant to the discussion of compatible use determination. First we review existing Sanctuary procedures regarding compatibility, present some general concepts of protected area use management, then provide examples of other agency/program mechanisms, and finally conclude by looking at the comparisons between NMSP and other agencies.

I. INTRODUCTION

The purpose of this paper is to provide the Compatibility Determination Working Group (CDWG) for the Stellwagen Bank National Marine Sanctuary (SBNMS) with background information relevant to the discussion of compatible use determination. The CDWG was created by the Sanctuary Advisory Council (SAC) as part of the SBNMS management plan review process. The CDWG is to provide recommended guidance on formulating standards or guidelines by which compatibility of use can be determined pursuant to the CDWG's problem statement:

> *To identify a mechanism by which to assess the scale, scope or impact of existing or proposed human uses of the Sanctuary and to determine whether these activities, individually or cumulatively, are compatible with the Sanctuary's primary purpose of resource protection.*[1]

This problem statement and the following questions are from the *Working Group Problem Statements* document as approved by the SAC in November 2003.

1. What criteria or standards should be used to determine the compatibility of a use or degree of use with resource protection?
2. How is the determination of compatibility of uses being determined elsewhere; and how are those practices applicable to the Sanctuary?
3. How does the Sanctuary identify resources that are sensitive or at risk including cumulative impacts of uses on resources and the natural system of the Sanctuary?
4. How does the Sanctuary determine whether a use complements or interferes with the ability to manage the Sanctuary for its primary objective of resource protection?
5. What collaborations with public and private organizations will promote activities that are compatible with the primary purpose of resource protection?

[1] Compatibility Determination Working Group Problem Statements – November 3rd, 2003

Advice on compatibility determination by the CDWG will be considered as input towards a revised SBNMS management plan as other Working Groups' advice has been via submission to the SAC for review and deliberation before submission to the Sanctuary Superintendent.

II. BACKGROUND

The National Marine Sanctuaries Act (NMSA or Act), 16 U.S.C. sec.1431 *et seq*., is the enabling legislation for the National Marine Sanctuary Program (NMSP). One of the purposes and policies of the Act, the NMSP is to "maintain the natural biological communities in the national marine sanctuaries, and to protect, and, where appropriate, restore and enhance natural habitats, populations, and ecological processes" (sec. 301(b)(3)). In addition to protecting sanctuary resources[2], another one of the purposes and policies of the Act is to "facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities" (sec. 301(b)(6)).

Section 303(a) of the Act authorizes the NMSP to designate an area of the marine environment[3] as a national marine sanctuary and promulgate regulations implementing the designation of that specific sanctuary, if:

- The area fulfills the purposes and policies of the Act
- The area is of special national significance
- Existing authorities are inadequate or should be supplemented to ensure coordinated and comprehensive conservation and management of the area and designation of a national marine sanctuary will facilitate these objectives
- The area is of a size and nature that will permit comprehensive and coordinated conservation and management

A sanctuary may also be designated directly by an act of Congress. For example, Congress designated Stellwagen Bank National Marine Sanctuary (SBNMS) in 1992. Its stated purposes are to protect and manage the conservation, ecological, recreational, research, educational, historical and esthetic resources and qualities of the area.[4]

Section 304(a)(1) of the Act requires the NMSP, when proposing to designate a national marine sanctuary, to "issue, in the Federal Register, a notice of the proposal, proposed regulations that may be necessary and reasonable to implement the proposal, and a summary of the draft management plan." In the designation of a national marine sanctuary, the NMSP must also identify which activities are potentially to be regulated.

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[2] "Sanctuary resource" means any living or nonliving resource of a national marine sanctuary that contributes to the conservation, recreational, ecological, historical, educational, cultural, archeological, scientific, or aesthetic value of the sanctuary. NMSA sec. 302(8).

[3] "Marine environment" means those areas of coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands over which the United States exercises jurisdiction, including the exclusive economic zone, consistent with international law. NMSA sec. 302(3).

[4] 58 F.R. 53865, October 9, 1993.

III. COMPATIBILITY DETERMINATION[5] WITHIN THE NATIONAL MARINE SANCTUARY PROGRAM

Issues are typically brought to the attention of the NMSP during public scoping for designation or management plan review. The NMSP uses National Environmental Policy Act (NEPA) requirements to analyze the impacts of various use alternatives. This NMSP relies upon this analysis to generally determine the compatibility of broad categories of uses. There are no system-wide standards or framework to determine whether or not a use should be allowed if it has not already been categorically prohibited or restricted. As a result, compatibility determinations are made by a suite of mechanisms that are typically implemented on a case-by-case basis, i.e., for individual sanctuaries. Issues can arise when activities within a sanctuary authorized under one law present a conflict with the purpose of the NMSA.

For example, in the SBNMS the Clean Water Act allows certain discharges in the sanctuary such as certain discharges by cruise ships. From a public health and general environmental perspective, this is acceptable under the Clean Water Act as administered by EPA. However, in this case the broader issue is whether such discharge from such vessels is appropriate or compatible within a national marine sanctuary.

Other problems can occur when deciding whether activities (proposed or pre-existing) occurring within a sanctuary that are not covered under existing regulations should be allowed to continue or occur in the sanctuary and, if so, in what capacity. For example the use of motorized personal watercraft (e.g., Jet Skis) is not currently regulated in SBNMS; however, their use in the sanctuary could become problematic.

Current mechanisms used to assess the compatibility of activities within Sanctuaries include:

1. Prohibition of Certain Activities by Congress.

Certain activities are prohibited as a result of being explicitly identified as such in a Federal statute, such as one designating a sanctuary or other ruling.[6] For example, in the designation of SBNMS, Congress prohibited exploration for, and mining of, sand, gravel, and other minerals. As a result, these activities are considered *per se* incompatible uses at SBNMS.

2. Designation Document

When a sanctuary is designated, a Designation Document is developed in conjunction with an Environmental Impact Statement (EIS). Drafting the EIS requires public scoping as well as an analysis of the potential impacts of the proposed action, in this case primarily the regulations implementing the sanctuary designation. The Designation Document serves many functions for the new sanctuary, such as identifying boundaries and resources of biological or historical significance. The Designation Document also identifies the activities regarding the sanctuary that are subject to regulation in order to protect the conservation, recreational, historical, research, educational and esthetic resources and qualities of the area. Once the sanctuary is

[5] The NMSP does not officially endorse the use of the language "compatibility determination".

[6] National Marine Sanctuaries can be designated by one of two mechanisms: an act of Congress or by the Secretary of Commerce under the NMSA.

designated, the NMSP may only regulate activities that are on the list of activities to be regulated[7]. The sanctuary Designation Document provides the scope of the activities potentially to be regulated in the new sanctuary, which have been identified as potentially incompatible activities.

If the NMSP wishes to regulate an activity that is not included in the list of potentially regulated activities, it must amend the Designation Document. A sanctuary's terms of designation may be changed by following the same procedures used by the NMSP to designate a sanctuary, which are provided in sections 303 and 304 of the Act.

3. Regulations

Each sanctuary has site-specific regulations in place that prohibit specific activities from occurring within (and in some case, outside of) the sanctuary. These regulations range from being specific (e.g., no Jet Skiing in a designated area) to broad (e.g., no disturbance of the seabed). These regulations are first developed when a site is designated, and then subject to review at a minimum every 5 years under the NMSA. During a site's management plan review process, regulations may be updated or eliminated, or new regulations may be developed, depending on the resource management need. Through the management plan review process, the public is provided opportunity to comment on any proposed change to an existing regulation.

In the Designation Document for SBNMS, the following activities are subject to regulation[8]:

- Discharging within or from beyond the boundary of the Sanctuary
- Exploring, developing or producing oil, gas, and minerals
- Drilling into, dredging or otherwise altering the seabed
- Developing or conducting mariculture
- Taking or attempting to take a living or historical Sanctuary resource
- Transferring a petroleum-based product from vessel to vessel
- Operating a vessel
- Possessing a Sanctuary resource
- Interfering with an investigation in connection with enforcement of the Act or any regulation pursuant to the Act.

The actual regulations of SBNMS prohibit or restrict some of the activities mentioned above.[9] There are several exceptions to sanctuary regulatory prohibitions. For example, incidental alteration of the seabed is allowed if it results from anchoring vessels, traditional fishing operations, or installation of navigation aids. Otherwise altering the seabed is prohibited in SBNMS. Disturbance of historic resources is prohibited except for incidental disturbance resulting from traditional fishing operations.

[7] House Report No. 96-864(1), April 22, 1980.

[8] For full text of activities subject to regulation, see 58 F.R. 53873, October 19, 1993.

[9] 15 C.F.R. sec.922.142.

4. Permitting Process

The NMSP has the authority to issue permits in appropriate instances for activities that further the objectives of the sanctuary, such as research and education, or for activities that may be considered compatible under certain conditions. Site staff typically processes the permits, which are then cleared by the NMSP headquarters. There are three types of permits: Special Use Permits, NMS Permits, and Authorizations.

Special Use Permits

The NMSP has the authority, under the NMSA, to issue Special Use Permits (SUPs) for individual sanctuaries for activities that are compatible with the purposes for which the sanctuary was designated and do not injure sanctuary resources. SUPs are usually issued for "commercial-type" activities.

National Marine Sanctuary Permits

Under NMSP regulations for individual sanctuaries, permits may in appropriate instances be issued for activities that would otherwise be prohibited but offer some other benefit to the sanctuary (i.e., further the objectives of the sanctuary), such as research and education.

Authorizations of Other Agency Permits

The NMSP may for some sanctuaries authorize activities that would otherwise violate sanctuary regulations when the activities are subject to a permit under other authorities that overlap sanctuary jurisdiction, such as the Clean Water Act, Marine Mammal Protection Act, Endangered Species Act, Migratory Bird Treaty Act, Magnuson-Stevens Fishery Conservation and Management Act.

IV. COMPATIBILITY DETERMINATION OUTSIDE THE NMSP

Concepts of use management have been studied extensively and applied in making compatibility determinations in other management regimes. In this section, we describe one of the concepts that is used in some form or another in many agencies' management strategies. We also present several examples of agencies using it to determine compatibility.

1. Limits of Acceptable Change

The concept of Limits of Acceptable Change (LAC) uses a set of desirable long-term conditions as the basis for making decisions regarding use compatibility. It provides tools to deciding what resource conditions are acceptable, and then prescribing management actions geared toward protecting or achieving these conditions.[10] It was developed to build on the concept of carrying capacity by researchers of the U.S. Forest Service in the early 1980s as a tool for "establishing acceptable and appropriate resource and social conditions in recreational settings,"[11] and to "address the problem of managing recreational use in national [terrestrial] protected areas."[12] As the concept matured, it was recognized that its utility could be broadened to include management of multiple-use areas, which can bring additional challenges to management.[13]

The LAC concept is based on compromising uses that result from two conflicting goals of management, for example conservation and access to recreation. In multiple-use areas, the concept could be applied if one of the goals takes precedence over others, as indicated in a mandate or administrative history for example.

The use of LAC in resource management requires that a series of steps be followed in order to determine the ideal future condition of the resources. Once the desired outcome has been determined, with appropriate input from the public, each proposal for use is evaluated by examining its impact, positive or negative, on the desired conditions. Using the LAC process enables the resource manager to determine not only whether a use or event is compatible with the mandate of the protection agency, but also whether the cumulative impacts of several uses or events can still be considered acceptable regardless of the compatibility of individual occurrences.

LAC attempts to answer the following question: "what resource and social conditions are appropriate (or acceptable), and how do we attain those conditions?"[14] This is in contrast with

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[10] Stankey, G.H. *et al*. January 1985. *The Limits of Acceptable Change (LAC) System for Wilderness Planning*. United States Department of Agriculture. Forest Service. Intermountain Forest and Range Experiment Station, Ogden, UT 84401. General Technical Report INT-176.

[11] Ibid.

[12] Ibid.

Also from Stankey et al. 1985

[13] Brunson, M. December 1997. *Beyond Wilderness: Broadening the Applicability of Limits of Acceptable Change.* In Proceedings – Limits of Acceptable Change and Related Planning Processes: Progress and Future Directions. United States Department of Agriculture. Forest Service. Intermountain Forest and Range Experiment Station, Ogden, UT 84401. General Technical Report INT-371.

[14] McCool, S. *Limits of Acceptable Change: A Framework for Managing National Protected Areas: Experiences from the United States* Online at: www.prm.nau.edu/prm300_old/LAC_article.htm

more traditional resources management strategies, which tend to focus on this question: "how many is too many?" in reference to uses of the resources. LAC originally contained four key components:

- Specification of acceptable and achievable resource and social conditions, defined by a series of measurable parameters;
- Analysis of the relationship between existing conditions and those judged acceptable;
- Identification of management actions necessary to achieve these conditions;
- A program of monitoring and evaluation of management effectiveness.

These four components are further divided into the following practical steps:

1) Identify area special values, issues, and concerns
2) Identify and describe recreation opportunity classes or zones
3) Select indicators of resource and social conditions
4) Inventory existing resource and social conditions
5) Specify standards for resource and social conditions in each opportunity class
6) Identify alternative opportunity class allocations
7) Identify management actions for each alternative
8) Evaluation and selection of a preferred alternative
9) Implement actions and monitor conditions

The LAC method attempts to engage resource managers in the integration of the complexity inherent to managing the use of protected areas. It addresses both physical and social sciences with a strong involvement of the community, and provides a basis for decision-making regarding compatibility determination. LAC provides a broad framework with specific desired outcomes that can be used to guide the process of compatibility determination. Several agencies have adopted frameworks following the LAC concept, such as the Visitor Experience Resource Protection (VERP) with the National Park Service (see below) and the Management Process for Visitor Activities (VAMP) with Parks Canada.[15]

2. Examples of Use Management

Other national resource management authorities in the U.S. and abroad have created frameworks for determining compatible uses within their jurisdictions. A brief review of these examples provides broader perspective.

[15] Nilsen, P. and G. Taylor. 1997 A Comparative Analysis of Protected Area Planning and Management Frameworks. Proceedings – Limits of Acceptable Change and Related Planning Processes: Progress and Future Directions. United States Department of Agriculture. Forest Service. Intermountain Forest and Range Experiment Station, Ogden, UT 84401. General Technical Report INT-371. Pages 49-57.

a. U.S. Fish and Wildlife Service

Background

In the National Wildlife Refuge System Improvement Act of 1997[16], it was clearly stated that wildlife comes first on National Wildlife Refuges. In the National Wildlife Refuge System (NWRS) priority public uses are wildlife dependent, i.e., wildlife observation, hunting, fishing, photography, interpretation, and environmental education. Other uses are usually prohibited except if allowed by a permit from the Refuge Manager. The NWRS generally does not use the concept of LAC in order to determine compatibility of use on a refuge.

The agency's definition of compatible use is "a proposed or existing wildlife-dependent recreational use or any other use of a national wildlife refuge that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the NWRS mission or the purpose of the national wildlife refuge."[17]

Process

Once a use[18] is being proposed to a refuge, the FWS follows a series of dichotomous steps to determine the compatibility of that use[19]. The following questions are answered during this process:

1. Is the use a "refuge use"?
YES – go to step 2
NO – use is not subject to compatibility

2. Is the use an emergency?
YES – use is not subject to compatibility
NO – go to step 3

3. Does the Service have jurisdiction over the use?
YES – go to step 4
NO – use is not subject to compatibility

4. Is the proposed use legal (does it comply with any law or regulation)?
YES – go to step 5
NO – use is denied

5. Does the use conflict with any Executive Order, or Department or Service policy?
YES – use is denied
NO – go to step 6

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[16] National Wildlife Refuge System Improvement Act of 1997. 16 U.S.C. sec.668dd-668ee.

[17] 65 F.R. 62486, October 18th, 2000.

[18] A refuge use is "*a recreational use (including refuge actions associated with a recreational use or other general public use), refuge management economic activity, or other use of a national wildlife refuge by the public or other non National Wildlife Refuge System entity*". Fish and Wildlife Service – Refuge Management. Policy 603 FW 2Q.

[19] Personal phone communication with Ward Feurt. Rachel Carson National Wildlife Refuge. December 2nd, 2004.

6. **Does the use conflict with any refuge goal or objective?**
   YES – use is denied
   NO – go to step 7

7. **Is the use consistent with public safety?**
   YES – go to step 8
   NO – use is denied

8. **For uses other than wildlife-dependent activity, is the use manageable within the available budget and staff?**
   YES – go to step 9
   NO – use is denied

9. **Does the use conflict with other resource management objectives?**
   YES – use is denied
   NO – Complete a Compatibility Determination document.

Compatibility Determination

There are 6 types of activities that have been determined to be wildlife dependent: wildlife observation, photography, fishing, hunting, environmental education, and interpretation. Wildlife-dependent activities have priority of use over non wildlife-dependent activities. When determining compatibility, the manager must give consideration to the availability of budget or staff for the proposed use. Note that the use may still be considered incompatible if there is a lack of staff available, unacceptable impacts to the resource, or the timing and/or funding is not appropriate.

The use needs to be consistent with not only the law but also the purpose of the individual refuge in which the use would take place. The purpose of the refuge is found in the legislation that designated the refuge or in the conditions of the land purchase for the refuge. If the use is going to interfere with the purpose of the refuge, then it is considered incompatible.

The FWS has established general categories for similar groups of activities in order to streamline the compatibility determination process. For example, research generally falls under one group. If the research will further the purpose of the individual refuge, then it may be granted a permit. If the research is not likely to benefit the wildlife of the refuge, even if it does not directly harm the resources, then it may not receive a permit.

The compatibility determination process is often conducted in conjunction with the NEPA process. If a proposed use is not mentioned in the refuge guidelines and has not gone through the compatibility determination process before, then a new NEPA document must be issued before the use can take place, even if it is deemed compatible. All compatibility determination documents are available to the public.

It is important to consider that an application may be denied even if it is not incompatible, due to lack of staff resources or inappropriate timing, for example. If conflict arises between different uses, the agency will give priority to the use that "most positively contributes to the achievement of refuge purposes, the National Wildlife Refuge System, and specific refuge management goals."

Example

The Rachel Carson National Wildlife Refuge in Maine provides examples of how compatibility is determined for a proposed use. See Appendix A.

b. U.S. National Park Service

Background

The U.S. National Park Service (NPS) was founded in 1916 by the NPS Organic Act (16 U.S.C. sec.1). This act determined that one of the purposes for which the national parks are managed is "to conserve the scenery and the natural and historic objects and the wild life therein." The NPS is also directed by the Redwood National Park Act of 1978 not to allow activities that derogate the values and purposes for which these areas have been established (16 U.S.C. sec.1, 1a-1). Since then the directives from the Redwood National Park Act have been found to apply to the NPS as a whole. [20]

The other purpose of the NPS is to "provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." The dual mission of NPS brings an inherent conflict between resource protection and accessibility. The laws give NPS management some discretion to allow certain uses that may have an impact on the park resources and values when they further the purposes of the park. However, an activity or use may not take place if it is shown to result in impairment of a park's resources and values.[21]

Process

Visitor Experience and Resource Protection

In the 1990s, NPS developed the Visitor Experience and Resource Protection (VERP) framework using the LAC concept. The VERP framework was designed to provide logic to decision-making regarding issues of carrying capacity, with the goal of incorporating the framework in the development of the more comprehensive General Management Plan.[22] It is defined as:

[20] U.S. National Park Service. 2001. *National Park Service Management Policies*. Section 1.4.

[21] U.S. National Park Service. 2001. *National Park Service Management Policies*. Section 1.4.

[22] Hof, M. and David Lime. 1997. *Visitor Experience and Resource Protection Framework in the National Park System: Rationale, Current Status, and Future Direction*. In Proceedings – Limits of Acceptable Change and Related Planning Processes: Progress and Future Directions. United States Department of Agriculture. Forest Service. Intermountain Forest and Range Experiment Station, Ogden, UT 84401. General Technical Report INT-371.

A planning and management framework that focuses on visitor use impacts on the visitor experience and the park resources. These impacts are primarily attributable to visitor behavior, use levels, types of use, timing of use, and location of use. [23]

The VERP framework consists of nine elements, which loosely follow the nine steps of the LAC process discussed above:

1) Assemble an interdisciplinary project team
2) Develop a public involvement strategy
3) Develop statements of park purpose, significance, and primary interpretive themes; identify planning constraints
4) Analyze park resources and existing visitor use
5) Describe a potential range of visitor experiences and resource conditions
6) Allocate the zones to specific locations within the park
7) Select indicators and specify standards for each zone; develop a monitoring plan
8) Monitor resource and social indicators
9) Take management actions

Determination of Impairment

Not all national parks use the VERP framework. Those parks that do not make use of VERP make compatibility determinations by determining whether or not it results in impairment of park resources. The management policies clearly state that "if there is a conflict between conserving resources and providing enjoyment for them, conservation is to be predominant."[24]

An impairment is defined as an impact that would harm the integrity of a park's resources including the opportunities that would otherwise be present for the enjoyment of those resources. [25] The decision to find that a use causes impairment rests on the responsible NPS manager, who is usually the park superintendent. This decision depends on:

- The particular resources that would be affected
- The severity, duration and timing of the impact
- The direct and indirect effects of the impact
- The cumulative effects of the impact and other impacts

The likelihood of an impact being considered an impairment is high if the conservation of a resource or value of a park is necessary to fulfill specific purposes of the park, key to the integrity of the park or of the enjoyment of the park, or identified as a goal in the park's general management plan. On the other hand, if an impact is an unavoidable result of an action targeted at the preservation of the integrity of a resource, then it is less likely to be considered an impairment.

The NPS manager in charge of allowing a use must incorporate any environmental impact statements required by NEPA, relevant scientific studies and other sources of information, and

[23] U.S. National Park Service. 1997. *VERP: The Visitor Experience and Resource Protection Framework: A Handbook for Planners and Managers.*

[24] Ibid.

[25] U.S. National Park Service. 2001. *National Park Service Management Policies.* Section 1.4.

the public in his or her decision. If a proposed activity has the potential to be considered an impairment, then it must be treated as a known impairment and not be allowed to proceed. It is then determined to be incompatible with the NPS mandate.

c. U.S. Forest Service

Background

The Forest Service (FS) is responsible for managing certain areas as wilderness. The regulations implementing the National Forest Management Act requires management of wilderness areas to "provide for limiting and distributing visitor use of specific portions in accord with periodic estimates of the maximum levels of use that allow natural processes to operate freely and that do not impair the values for which wilderness areas were created (Federal Register 1982, section 19.18(a))." In order to achieve the objectives of the Forest Service with respect to recreation, the concept of LAC was developed in the 1980s.

Process

The process of developing a LAC framework is described in section IV (1) above.

Examples

- The Forest Service developed a realistic example (Imagination Peaks Wilderness) of the LAC framework in one of their publications. See additional material in binder.

- The Bob Marshall Wilderness Complex (BMWC) in the Northern Rocky Mountains of northwestern Montana developed a Wilderness Recreation Management Direction document implementing LAC concepts in 1987.[26] See Appendix A.

d. Saba Marine Park (Caribbean)[27]

Background

The Saba Marine Park (SMP) was established in 1987 around the island of Saba, in the Eastern Caribbean, by Ordinance of the Netherlands Antilles government. The SMP provides the visitor with high biological diversity, pristine character, bathymetric differentiation and coral reef communities. The mandate of the SMP is to preserve the natural resources of the marine environment for recreational, scientific, educational and commercial purposes. In the late 1990s, the SMP started drafting a long-term management plan to succeed in protecting the marine environment and multi-purpose uses. A local community-base task force representing a variety of local interests participated in the planning process. In developing the management plan, the task force used a management technique known as Limits of Acceptable Change (LAC).

Process

The management plan was designed by going through a series of steps, following the LAC method. The product of LAC was a set of desired outcomes for SMP, which were used to

[26] Warren, G. A. December 1997. *Recreation Management in the Bob Marshall, Great Bear, and Scapegoat Wildernesses.* In: Proceedings – Limits of Acceptable Change and Related Planning Processes: Progress and Future Directions. United States Department of Agriculture. Forest Service. Intermountain Forest and Range Experiment Station, Ogden, UT 84401. General Technical Report INT-371.

[27] All Saba information taken from the *Saba Marine Park Management Plan*, 1999.

develop guidelines for determining the compatibility of proposed uses. The task force, using LAC, agreed to a set of preventive and corrective actions as well as an extensive monitoring plan, which is necessary to determine whether an action should be taken due to a problem arising with the resources.

Example

An example of the process that the task force used to draft the management plan is shown in Appendix A.

3. Summary

Examples of compatibility determination with other government agencies show that there is a variety of strategies used to decide whether activities should be allowed in a protected area. When making a decision regarding a proposed use most agencies follow a series of steps; however, there is usually not a detailed framework on how they determine whether a particular use is compatible with their mandate. This decision must take in account many different factors, and is usually left to the person who has the authority to make the compatibility determination (e.g., the person who issues the permits).

APPENDIX A

Examples of compatibility determination

1. U.S. Fish and Wildlife Service

a. Legislation

When a use is proposed to a National Wildlife Refuge, the refuge must first determine if the use is legal. For example, the following statutes, regulations, and executive order are considered when determining whether a proposed use is legal or not at the Rachel Carson National Wildlife Refuge in New England:

1. The National Wildlife Refuge Administrative Act of 1966, as amended (16 U.S.C. sec.668dd - 668ee).
2. The Endangered Species Act of 1973, as amended (16 U.S.C. sec.1531-1544).
3. The National Environmental Policy Act of 1969, as amended (42 U.S.C. sec.4321-4340f).
4. Executive Order 11990, Protection of Wetlands.
5. Refuge Recreation Act (16 U.S.C. sec.460k).
6. Opening of Rachel Carson Refuge to Hunting (50 C.F.R. sec.32.31).

b. Purposes of a Refuge

If a proposed use is legal but not wildlife-dependent, then the individual National Wildlife Refuge must determine whether it is compatible with the purposes for which the refuge was established. At Rachel Carson National Wildlife Refuge, for example, there are five purposes for which the refuge was established:

1. ". . . for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. sec. 715d, Migratory Bird Conservation Act

2. ". . . suitable for -- (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...". 16 U.S.C. sec.460k-l Refuge Recreation Act

3. ". . . conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions..." 16 U.S.C. Sec.3901(b), Emergency Wetlands Resources Act of 1986

4. ". . . for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. Sec.742f(a)(1), Fish and Wildlife Act of 1956

5. ". . . for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if such terms are deemed by the Secretary to be in accordance with law and compatible with the purpose for which acceptance is sought." 16 U.S.C. Sec.742f(b)(1), Fish and Wildlife Act of 1956

2. Saba Marine Park

The following example illustrates the process that the task force used to draft the management plan. In order to manage the coral reefs, including the use of the resource, the SMP determined the following steps to be necessary:

1. Describe value: The Park contains a wide diversity of species, coral communities and bathymetric features reflecting its volcanic background. The natural diversity found around Saba is unique.
2. Design goal: Preserve the diversity of species found within the SMP
3. Define existing conditions: Good overall – some residual effects of Hurricane George in 1998.
4. Assign indicators of biophysical conditions: water quality, sedimentation, damaged corals
5. Describe standards of acceptable change:
   These standards were decided upon by the task force using a combination of local knowledge and previous scientific research when available.
   - water quality – constant values over time
   - sedimentation – 10 mg/cm^2 for resuspended matter and 10 mg/L for suspended matter.
   - Damaged corals – proportion of damaged corals in high use areas will not exceed 150% (or 200%) of the proportion of damaged corals in low use area at the same site
6. Some Possible Management Actions:
   - Preventive: Educate divers and dive operators on low-impact diving techniques
   - Corrective: If causes of deterioration are unknown, the SMP will initiative active research efforts to determine the cause of negative impacts

     For diving related issues, meetings with dive operators and guides will become more frequent

     If impacts are fishing related, the SMP will organize informational meetings for local fishermen to address the specific problem

If impacts are yachting related, the SMP will increase patrols and contacts among yacht users to enforce rules and regulations

7. Monitoring plan: technical descriptions of monitoring methods

3. U.S. Forest Service

The Bob Marshall Wilderness Complex (BMWC) in the Northern Rocky Mountains of northwestern Montana developed a Wilderness Recreation Management Direction (RMD) document implementing LAC concepts in 1987. The RMD developed specific inventories and monitoring requirements as well as minimum resource condition standards, as shown below.

Inventories and Monitoring

1) Determine overall use patterns, activities, and levels
2) Conduct an extensive social survey
3) Inventory trail conditions
4) Determine range trend and condition

Resource Condition Standards

5) Trail, campsite, and rive encounters with other parties
6) Number of human impacted sites
7) Occurrences of litter on riverbank
8) River recreation use experience quality
9) Encounters with other float parties at Schafer Meadows
10) Forage utilization
11) Aircraft landings at Schafer Meadows airstrip

The compliance with standards was determined; however, many standards were not assessed due to a lack of statistically representative data. The result of the assessment is shown in the table below.

Table 1: Monitoring accomplishments and compliance with standards

Accomplishment	Monitoring and Condition standard										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Monitoring Accomplished as planned					X	X	X				X
Incomplete Information	X	X	X	X				X	X	X	
Resource standards: mostly attained					X		X				
Resource standards: partially attained											X
Resource standards: not attained						X					

The RMD proposed a series of management actions to respond to concerns about current conditions. Such actions are meant to bring the current conditions closer to attaining the minimum standard condition. There are two main categories of management actions –

consideration for wilderness conditions and consideration for recreation management. Here are a few examples of such management actions.

Proposed Management Actions

I. Wilderness Conditions

1) Retain the indicators and standards described in the RMD
2) Establish new LAC indicators and standards for winter use

II. Recreation Management

1) Install temporary stock hitch rails or high lines for general public at bottleneck locations
2) Limit group size to the current level of 15 people, and reduce livestock numbers from the current 35 animals per group
3) Require fire pans or fire blankets for all open fires
4) Restrict park and saddle stock grazing before September in areas of known excessive forage use
5) Inventory outfitter developed trails and evaluate their effects on wilderness conditions
6) Continue to emphasize Leave No Trace wilderness education programs

Each alternative management action is subject to the need for environmental assessment, and more actions may be developed in response to public involvement. Once an action has been performed, additional monitoring is required to determine whether the action had the desired effect, i.e., bringing the targeted conditions closer to the minimum standard.

Appendix II. Matrix of Approaches to Compatibility

Legal Framework				Applicability to Compatibility Decisions		
Program	**Statutory Purpose**	**Other Regulatory or Mgmt Input**	**Application of law**	**Decisionmaking**	**Compatibility Definition**	**Compatibility Determination Method**
Management Entity	*Clearly articulated purpose(s) and other non-debatable concepts in primary law*	*In addition to statute, other input from regs, expansion/guidance on how statute applied*	*Is there a specific way the law and policy are applied?*	*Who makes the compatibility decision and how does the agency incorporate stakeholder input?*	*Is there a specific definition of compatibility or similar concept?*	*What method(s) are used to determine compatibility?*
Stellwagen Bank National Marine Sanctuary	Nine purposes and policies, including: 1) maintain natural biological communities; 2) enhance public awareness; 3) "facilitate to the extent compatible with the primary objective of resource protection all public and private uses of [Sanctuary resources] . . . not prohibited pursuant to other authorities" (NMSA Sec. 301 (b))	1) Designation Document: terms of designation; can be changed; 2) Managment Plan: subject to review every 5 years; 3) current 1993 plan states highest priority management goal is protection of marine environment and resources of SBNMS; 4) Effect of other laws/agencies: (Art. V FEIS/MP App. p. A3)	If an activity is listed as subject to regulation in the designation document than it may be regulated. Uses are generally allowed unless prohibited.	1) Site superintendent primarily responsible, with coordination with Headquarters; 2) SAC is a means for stakeholder input and sanctuary output; 3) Stakeholder input also obtained by Fed. Register notices; 4) MP Review and Designation Document changes (with possible regulatory changes) receives input via the National Environmental Policy Act (NEPA) process.	no definition	Case by case basis at each site ---1) prohibitions by Congress; 2) Designation Document (ids activities subject to reg and effectively, CD); 3) current regulations; 4) permitting process --- prohibited activities are de facto incompatible; list of activities to be considered restricted to (Desig Doc listing, or can amend Desig Doc through existing process)
National Wildlife Refuge System	Protect wildlife and prioritize *wildlife-dependent* public uses (16 U.S.C. sec.668dd-668ee); each refuge has a defined purpose either by legislation or conditions of property acquisition (individual refuges may have site-specific legislation with additional purposes, like SBNMS)	1) Wildlife-dependent uses may still not be allowed if determined to be incompatible; 2) even if a use is determined to be compatible, it may be prohibited due to other concerns (funding, etc)	Uses are generally prohibited unless permitted. 6 wildlife-dependent public uses have priority over non-wildlife dependent uses; uses may not interfere with or detract from NWRS mission or purpose of refuge or site"refuge use"- a recreational use, refuge management economic activity, or other use of refuge by public or other non NWRS entity." (FWS-Refuge Mgmt, Policy 603 FW 2Q)	1) Refuge manager's discretion; 2) Conducted in conjunction with NEPA; 3) Compatibility decisions are noticed to the public	"Proposed or existing wildlife-dependent recreational use or any other use of a national wildlife refuge that based on [site mgr's] sound professional judgment will not materially interfere with or detract from the fulfillment of the NWRS mission or purpose of the refuge" (65 R.R. 62486, October 18th, 2000)	1) Only consider CD for "refuge uses" (Fish and Wildlife Service Refuge Management Policy 603 FW 2.6Q); 2) Series of questions in flowchart format; 3) general categories created for similar groups of activities (i.e. research)
US National Park Service	1) "to conserve the scenery and the natural and historic objects and the wildlife therein" and 2) "to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." (16 U.S.C. sec.1)	Conservation higher priority than enjoyment of resources (NPS Management Policies 2001); impairment of park resources and values may not be allowed by NPS	1) Conservation is predominant in cases of conflict; 2) Consider: particular resources that would be affected; the severity, duration and timing of impact; direct and indirect effects of the impact; and the cumulative effects of the impact and other impacts (NPS Management Policies 2001); 3) incompatible uses are labeled "impairments"; 4) certain extractive uses are allowed in site-specific legislation (i.e. shellfishing in Cape Cod National Seashore);	1) Park Superintendent's discretion; 2) decisions made in conjunction with NEPA process	no definition	1) Use of Visitor Experience and Resource Protection (VERP) process (or equivalent) in some parks – outcome-oriented decision-making tool; 2) other parks- only allow uses that do not have the potential to be considered "impairment"
US Forest Service (Wildnerness Areas)	1) "to administer lands for the use and enjoyment of the American people" and 2) "while providing for the protection of these areas, the preservation of their wilderness character" (16 U.S.C. sec.1131(a))	Management of wilderness areas is required to "provide for limiting and distributing visitor use of specific portions in accord with periodic estimates of the maximum levels of use that allow natural processes to operate freely and that do not impair the values for which wilderness areas were created" (Fed. Reg. 1982, Sec. 19.18(a))		1) Wilderness manager's discretion; 2) decisions made in conjunction with NEPA process.	no defintion	Limits of Acceptable Change (LAC) in wilderness and multiple-use management (both immediate and cumulative)
Saba Marine Park (Caribbean)	"To preserve the natural resources of the environment for both commercial, as well as educational, recreational and scientific purposes" (Marine Environment Ordinance, Saba, A.B. 1987, no. 10)	1) prohibition of particular extractive activities; 2) differentiation between rights of Sabans and non-Sabans; 3) "activities which are harmful to the marine environment are not permitted in the Saba Marine Park" (Artcle 8 of the Ordinance)	Marine zoning (Island Resolution AB 10, 1987)	1) Saba Marine Park is a self-supporting component of the Saba Conservation Association; 2) local community is actively involved in assisting the management of the Marine Park (Saba Management Plan); 3) Executive Council of the Island Territory Saba may grand exemptions of prohibitions for scientific, commercial or educational purposes (Island Resolution AB 10, 1987)	no definition	Outcomes-based LAC process led to CD guidelines and preventative and corrective actions; on-going monitoring results informed when additional actions were needed

Appendix III. Relevant Authority

Below are selections of authority from statutes, regulations and the current management plan regarding Sanctuary purpose, use, and resource protection *(areas noted in highlights for guidance only)* and relevant to Stellwagen Bank NMS compatibility determination discussions.

NATIONAL MARINE SANCTUARIES ACT

Sec. 301 (a) 'Findings: Congress finds that... (4 findings listed)

(4) a Federal program... that establishes *national marine sanctuaries.. will*

A) improve the conservation, understanding, management and wise and sustainable use of marine resources;

B) enhance public awareness, understanding, and appreciation of the marine environment; and

C) *maintain for future generations the habitat, and ecological services of the natural assemblage of living resources that inhabit the area.'*

Title III, Sec. 301, (b) '*Purposes and Policies*. The purposes and policies are... (nine purposes listed)

3) 'to *maintain the natural biological communities* in the national marine sanctuaries, and to protect, *and, where appropriate, restore and enhance natural habitats, populations, and ecological processes*;
4) to *enhance public awareness, understanding, appreciation, and wise and sustainable use of the marine environment, and the… resources* of the National Marine Sanctuary System;
5) to *support, promote and coordinate scientific research on, and long-term monitoring* of, the resources of these marine areas;
6) to *facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas* not prohibited pursuant to other authorities;'

REGULATIONS

CFR Title 15, Chap IX, Part 922

Applicable to all Sanctuaries

Subpart E

922.42 *Allowed activities*:

'All activities (e.g. fishing, boating, diving, research, education) may be conducted unless prohibited or otherwise regulated in Subparts F through R, subject to… emergency regulations, ... all prohibitions, regulations, restrictions, and conditions validly imposed by any [other] authority ..., and... to section 312 of the NMSA."

Applicable to Stellwagen Bank Sanctuary

Subpart N

922.142 *Prohibited or otherwise regulated activities*:

(a) 1-8:

- discharging (with certain exceptions listed),
- exploring for, developing or producing industrial materials
- drilling into, dredging or otherwise altering the seabed of the Sanctuary, or constructing, placing or abandoning any structure, material or other matter on the seabed of the Sanctuary EXCEPT as an incidental result of anchoring, traditional fishing operations or installing navigation aids
- taking any marine reptile, mammal or seabird

- lightering
- possessing any historical resource, marine reptile, mammal or seabird
- interfering with law enforcement

(b)-(e) of this part state that the previous prohibitions don't apply in emergency situations, to an activity executed under a Sanctuary permit or Special Use permit or to activities permitted by other authorities as long as they comply with the Sanctuary Act and the Sanctuary Program doesn't object

(f) the Sanctuary Program generally cannot issue a permit regarding industrial material development or dredge material disposal

DESIGNATION DOCUMENT

Under the authority of the Sanctuary Act, 'the waters over and surrounding Stellwagen Bank and the submerged lands there under including the Bank... are hereby *designated as the Stellwagen Bank National Marine Sanctuary for the purposes of protecting and managing the conservation, ecological, recreational, research, educational, historical and esthetic resources and qualities of the area.'*

Article I Effect of Designation:

Final regulations are authorized 'as are necessary and reasonable to *implement the designation, including managing and protecting the conservation, recreational, ecological, historical, research educational and esthetic resources and qualities of the Stellwagen Bank National Marine Sanctuary...* Article IV of this document lists activities of the type that either are to be regulated, or may have to be regulated subsequently in order to protect Sanctuary resources and qualities. Listing does not necessarily mean that a type of activity will be regulated; however, *if a type of activity is not listed it may not be regulated except on an emergency basis*, unless... Article IV is amended...'

Article III Characteristics of area that give it value

Refers to rich environment created by physical and oceanographic characteristics, notes lengthy history of fisheries, biological productivity, marine mammals, shipping traffic and potential offshore industrial development.

Article IV *Activities subject to regulation:* 10 listed, including discharging, development of gas, oil and industrial materials, seabed alteration, mariculture, taking/harming Sanctuary resources, lightering, and vessel operation. Note emergency provision: 'Where necessary to prevent or minimize the destruction of, loss of, or injury to a Sanctuary resource or quality, or minimize the risk of such destruction, any activity, including those not listed... is subject to immediate temporary regulation, including prohibition.'

1993 MANAGEMENT PLAN

Sanctuary *Goals and Objectives*, 4 listed

1. **Resource Protection. "The *highest priority management goal is resource protection* of the marine environment and resources of Stellwagen Bank NMS."**
2. Research. "...to improve overall understanding of the Stellwagen Bank environment and resources, and to *identify and resolve specific management issues*."
3. Interpretation/Education. "...directed to improving public awareness and understanding of the Sanctuary and *need to protect its resources*."
4. Visitor Use. "The Sanctuary's overall goal for visitor management is to *encourage commercial and recreational uses of the sanctuary, compatible with resource protection.*" Specific objectives include '*monitor and assess the levels of Sanctuary use to identify and control potential degradation of resources and minimize potential user conflicts.*'

Additional points re Sanctuary purpose and use

Page 7

Executive Summary -- Purpose and Need for Designation

"Significant concerns were identified through this process regarding possible threats to the Stellwagen

Bank environment from proposed human activities. Natural resources at risk include the bottom features itself as well as, commercially important fisheries and endangered cetaceans."

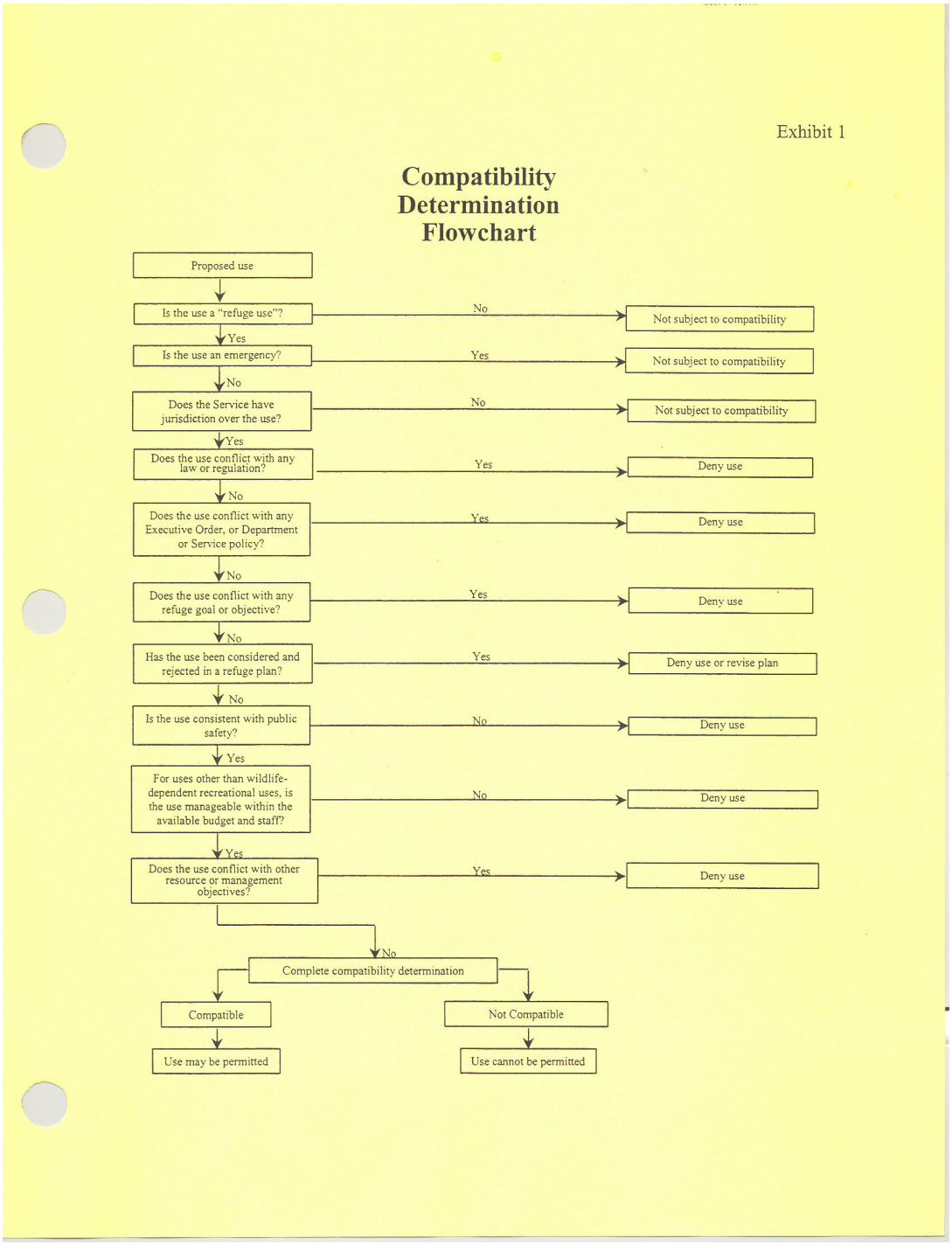
Page 82
Encouraging Compatible Uses of the Sanctuary

"An important element of resource protection for the Sanctuary is the *encouragement of public uses of the site that are compatible with the overall objective of long-term resource and system protection*." Compatible use will be fostered by various actions including "monitor commercial and recreational activities within the Sanctuary."

Page 87.
Re need for and role of Sanctuary Advisory Committee

"The National Marine Sanctuary Program differs from the many other special area management programs, in that Sanctuaries are managed to enhance research and education/interpretation as well as to *insure the primary goal of overall resource protection*."

Appendix IV. Compatibility Determination Flowchart from National Wildlife Refuge System.



Appendix V. Example of application of Limits to Acceptable Change to the Saba Marine Park.

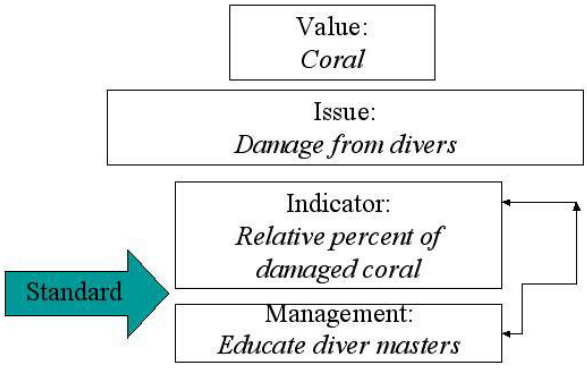
Example: Saba Marine Park

- Recreational values/uses in conflict with biodiversity values
  - Recreational diving has impacts on corals
- Willingness to compromise somewhat on biodiversity
  - Diving important source of income for island and marine park
- Any level of recreational use impacts biodiversity
  - Impacts occur with even very low levels of use

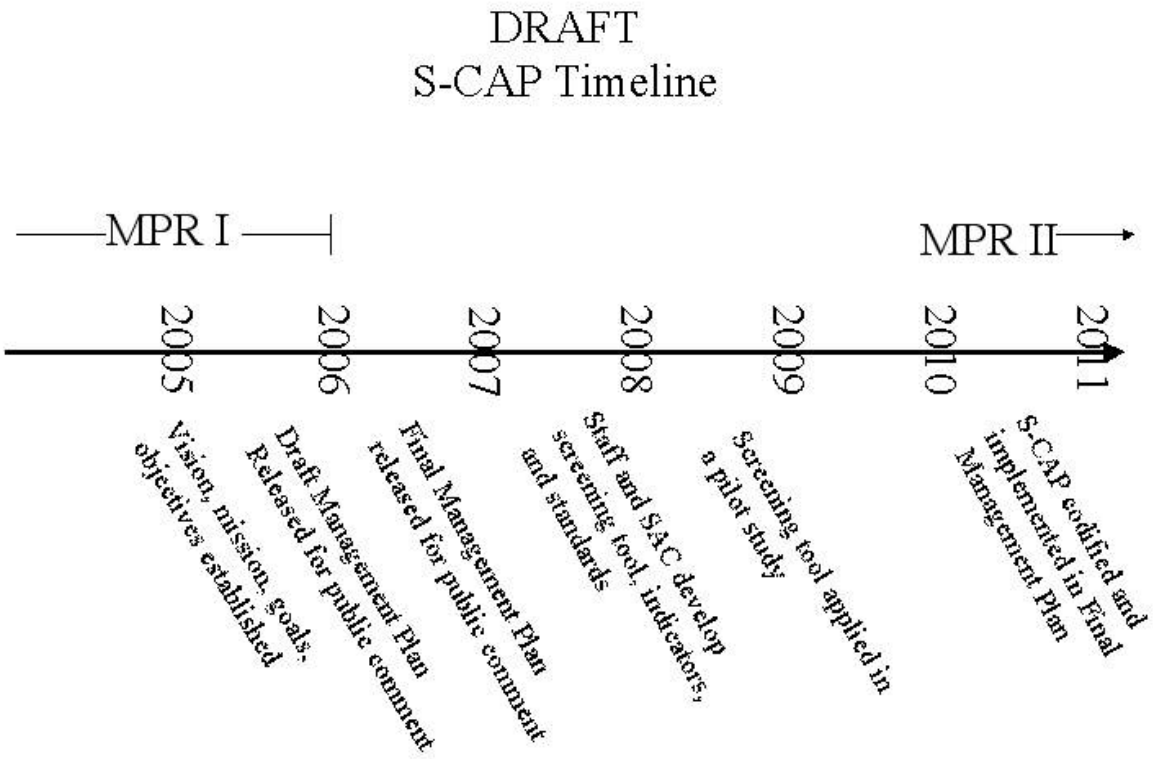
Example (continued)

- Establish indicators of biodiversity/social conditions
  - Visibility – represents sediment pollution
    - A problem from nearby gravel pit, concrete factory
  - Congestion
    - Too many divers makes enjoying the reef difficult
- Establish quantitative standards for each indicator
  - Distance one can see underwater
  - Number of other boats at a mooring point
- Amount of change acceptable varies by zone
  - Harbor area permits less visibility
  - Area off of harbor allows higher use densities

Example: Process for Saba Marine Park



Appendix VI. Proposed Timeline for Implementation of S-CAP



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